

REMARKS

By the above actions, claim 1 has been amended and new claims 16-19 have been added. In view of these actions and the following remarks, further consideration of this application is requested.

Claims 1-9 and 11-15 stand rejected under 35 U.S.C. §102(a) as being unpatentable over the Japanese patent application publication 7022172238A (hereafter, "JP '238) when viewed in combination with Japanese patent application publication 2000068235A (hereafter, "JP '235), and the Brown and Fujimoto et al. U.S. Patents. To the extent that this rejection relates to the claims as now presented, it should be withdrawn for the following reasons.

Firstly, it is pointed out that the two Japanese references are directed to entirely different apparatus. In JP '238 a wafer is cut into individual chips and the chips are individually treated with UV light after which a thrusting pin is used to remove the individual chip. In JP '235, the wafer is on a stretchable tape and after the wafer has been cut into chips, a stretching ring¹⁸ with a protrusion is mounted onto the tape holding ring 17 so that the protrusion enters a corresponding recess in the ring, thereby stretching the tape to separate the wafers. Thereafter, the ring is removed for placement on a chucking table 14. Neither of these devices bears any resemblance to each other or the device of the present invention.

Furthermore, with regard to the Brown and Fujimoto et al. patents which are relied upon for their teaching of chamfered edges on the rim of a device that stretches a malleable material, neither of these references is relevant to the Japanese references. Brown relates to the stamping of a sheet metal can end with a stamping tools configured to produce a particular shaping and similarly the Fujimoto et al. patent is also directed to tamping tools which are designed to reshape a metal plate material. Neither of these references are directed to stretching a tape for expanding it for separation of wafers thereon so that they can be individually removed and no one in the semiconductor art would look to such devices for a solution to the problems of doing so to which the present invention is directed. As pointed out in MPEP § 2141.01(a):

In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d

1443, 1445 (Fed. Cir. 1992). See also *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992).

Since both the Brown and Fujimoto et al. patents are neither be in the field of applicant's endeavor (semiconductor chip production by subdividing of a wafer into individual chips) nor reasonably pertinent to the particular problem with which the inventor was concerned ("the provision of a die bonder capable of omitting the dicing step before the die bonding step" present specification, page 2, line 14), these references are nonanalogous prior art that cannot be properly relied upon by the Examiner.

However, even assuming that these references were analogous prior art, they still would not suggest the present invention in which an expanding part that widens a gap between the individual dies after the laser light forms the modified region within the wafer, comprises an expanding stage having a frame with a chamfered top edge portion "at an outer peripheral side thereof which engages an expandable wafer tape on which the wafer is supported, the chamfered top edge portion having a chamfer with circular arc-shaped form." Since in the JP '235 reference, a projection is inserted into a recess, a chamfer there is no reason for a chamfer to be at an outer edge instead of making the projection round on top, such as the case for element 410 of Brown. On the other hand, if the removal technique of JP '238, no need for any expanding frame would be needed.

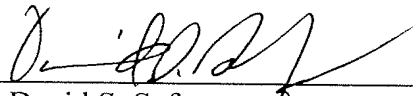
In view of the foregoing, it should now be apparent that claims 1 to 9 and 11 to 15 cannot be considered to have been rendered obvious by any proper assessment of the prior relied upon by the Examiner, so that the rejection under § 103 based thereon should be withdrawn.

With regard to new claims 16-19, they further distinguish the invention from the prior art particularly claims 18 which recite the frame pusher that moves relative to the expanding stage to cause the expandable wafer tape to expand and widen the gap between the individual dies, and which is located radially outward of the annular frame of the expanding stage. In the JP '235 reference, there is no such frame pusher outward of the holding frame.

While this application should now be in condition for allowance, in the event that any issues should remain after consideration of this response which could be addressed through

discussions with the undersigned, then the Examiner is requested to contact the undersigned by telephone for that purpose.

Respectfully submitted,

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